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The Brush Maker

By WILLIAM B. SPRAGUE

[The capital letters, interspersed through the text, refer to the list of authorities at the end of the article.]

As one writer puts it "We rise in the morning, and,—prepared to meet our fellows by the use of the flesh brush, the hair brush, the nail brush, the tooth brush,—we robe ourselves in well-brushed clothes, put on our brushed shoes, and descend over brushed stairways to breakfast in a room that has been well brushed and swept. In the preparation of the painted china upon which we eat, a brush has played a necessary part; the burnished urn is an evidence of its use; and when the meal is eaten, a brush removes the fragments that remain. Thence, through streets which have been cleaned with brushes, we go to offices kept clean by the use of similar appliances; and thus we pass down the well-brushed pathway of life, to take final refuge in a coffin which has been varnished by a brush" (F).

The smallest kind of brushes, such as used for water color and oil painting were formerly known as *hair pencils*, and were made from the hair of the camel, badger, squirrel, goat and several other animals. A tuft of the hair was bound around the root ends with a piece of strong thread and pushed through a quill, from the larger end to the smaller, until the free ends of the hairs projected from the latter (A). The quills ranged in size from those of a pigeon to those of the largest swan, and were first softened and made pliable with moisture. In drying, the quill contracted and held the bound end of the tuft securely. When a very large brush of this type was to be made, a tin-plate tube, either round or oval shaped, was used instead of the quill. A cedar stick was then thrust into the open end of the quill or tube, to serve for a handle (A, C, F).

The great majority of brushes for various utilitarian purposes, however, were made from the bristles of the

Brush Maker.

(from Rivington's *Trades*)

hog or wild boar (A, B, E). Those from Russia were preferred, and, at one time, five-sixths of the entire world's supply were obtained from that country (F). The best quality of bristles were the thickest, (A) and the lightest in color, (from France), these latter being called *lilies* (A, F). They always required thorough cleansing (F) and sometimes they were bleached with sulphur fumes (D, F). Beginning early in the 19th century, whalebone, softened by boiling

(*Continued on page 67, column 1*)

Ice Cream

By JOSEPH E. SANDFORD

It is said that the freezing of water by the aid of a mixture of snow and salt-peter was first mentioned in 1607 by one Tancredus, a physician of Naples. In 1626, common salt was substituted for salt-peter. The technical base for frozen sweets was laid.

The scene was suited to the discovery. The people of Naples had long been using mountain snow for cooling their drinks. The snow, rolled into huge balls, was rammed into pits and covered over, to be called upon as needed, and sold in the shops of the snow merchants. James Addison, writing of his Italian Travels, in 1705, gives us an example of early Italian racketeering. The Banditti — "often put the snow-merchants under contribution and threaten'd them, if they appear'd tardy in their Payments, to destroy their Magazines, which they say might easily have been effected by the Infusion of some Barrels of Oil"— which, sad to relate, has a strangely modern ring.

Add to a good summer supply of snow or ice, a genius for confections, the pronouncement of Tancredus and an excellent market for cooling aids and you have the formula for the early manufacture of frozen sweets. "Ice cream in the Italian manner," reads an eighteenth-century London confectioner's card, and even today the tradition is perpetuated in our Neopolitan, Tutti-frutti and Biscuit Tortoni (from Tortona in northern Italy).

The first recorded mention of ice cream in England or English, appeared in the *London Gazette*, in 1688, where it is called "Iced Cream" — the present form, "ice cream" appearing in 1769.

The early ice cream freezer, as pictured in the *Encylopedie Methodique* (Paris, 1783) consisted of a wooden pail about eighteen inches in diameter,

into which was placed a cylindrical pewter container, small enough to allow four or five inches between it and the sides of the pail. The pewter container had a tight fitting cap, provided with a cross-bar handle, by which the cylinder could be turned back and forth in a mixture of crushed ice and salt, packed about it. This was to keep the cream, sugar, etc. from separating before it set.

It was probably just such a utensil as this that George Washington bought on May 17th, 1784,—"a cream machine for ice,"—and it may very well be that the ice-house built at Mount Vernon, in November of the following year, attested the use of the freezer, making a larger supply necessary. Previously, the ice at Mount Vernon had been stored in pits.

The first commercially manufactured ice cream was advertised by a Mr. Hall, of 76 Chatham Street, (now Park Row) New York City, on June 8th, 1786. In Philadelphia, a Mr. Segur was the first to manufacture ice cream for sale—"had the honour, and, besides, the first advantage, to benefit himself and us" wrote Mr. Watson in his *Annals*—to which his editor Hazard adds: "They were very good; he served them at his shop in Market Street between Third and Fourth. His successor was a remarkably ugly man with a very large nose, a Dutchman by the name of Schrawder(?)." Neither Watson nor Hazard gives the dates.

The ice cream freezer remained unchanged until the middle of the nineteenth century, when H. B. Masser, of Sunbury, Pa., brought about a "revolution" in the cylinder. He invented a freezer with a combined agitator and scraper, operated by a hand crank on the top of its shaft. Patents for the new freezer were granted on December 15th, 1848, and January 19th, 1858. The very popular Godey's *Ladys' Book* gave the new invention several puffs, helping to spread its fame in home circles throughout America. In May, 1860, Godey's observed: "that good ice cream can be made the 'old way' with the old fashioned tubs, can and puddle (called 'spaddle' in 1844, a copper blade used for scraping congealed cream from the side of the can) but it requires experience, as well as a degree of labor and drudgery that none but the hardy and robust can long endure. Those whose recollections carry them back some twenty-five or thirty years, when ice cream was served up in wine glasses, will readily recognize the difference between the smooth, rich and plastic appearance of the ice cream of the present day, as compared with the granular crystalline and icy appearance associated with their recollections."

So a salute to Dr. Tancredus, Mr. Masser, and the youth of America, who have furnished the motive power of the cranked freezer, spurred by the promise of "cleaning" the dasher.

Laundry Implements

By Mary Earle Gould

Following on the heels of the crude, narrow wash board and the smoothing board which were described in The Chronicle for September, 1938, two more unusual pieces have been found. There seem to be as many utensils for washing as for making butter or cheese.

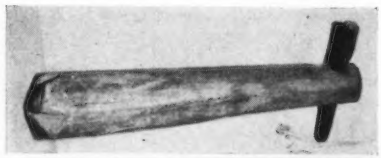


Fig. 1 (*above*) — Dolly Pin
Fig. 2 (*below*) — Pounder

One of the implements is called the *dolly pin*, (Fig. 1). Webster says that the dolly pin is a mining implement, which turned on a vertical axis or winch and gave a circular motion to the ore to be washed. So when such an implement was made for the wash tub, the name still applied. The dolly pin is much like a savage's club—large and heavy at one end and tapered at the other. At the smaller end, a cross-stick acts as a handle. At the larger end, grooves have been cut which served as a point of friction. The pin was used in a tub of clothes and rubbed them and pushed them around. As washing was done only two or three times a year, the clothes did not suffer from the severe treatment, as would happen with the weekly wash of today. The dolly pin is two feet long and the larger end is six inches in diameter. The size to make it would all depend on the strength of the person who was to use it, for it would be no easy task to lift the pin up and down and turn it about in a tub filled with heavy homespun pieces.

The second washing implement is the *pounder*. (Fig. 2). Only the head is pictured, as the handle is over four feet long. The head was made of lignum-vitae for weight and durability. It measures eight inches in diameter and was evidently turned out on a lathe. It has eight holes in the outer cup, which, together with the construction of the inside section, made suction possible. It appears to be the first step in the modern suction pump or vacuum pump, on the mechanical washing machines. This pounder was used in a barrel called a pounding barrel.

The pounder seems to be a step in advance of the dolly pin, as the idea of suction is introduced. It would be far easier to work the pounder in a barrel than to grind the heavy dolly pin in a tub.

Sugar Mould

The mould for making loaf sugar was an unglazed cone-shaped earthenware vessel, about eighteen inches long and about six inches in diameter at the open end, with a small hole at the point. Its form might be compared to that of a modern artillery projectile, except for a slight outward flare at the base. We learn just how this was used from James Wylde's *Book of Trades* (1866), although we find the moulds referred to in much earlier works. The brown sugar, as imported, was first dissolved in water, to which lime had been added, and then strained through flannel. Most of the colour was removed by filtering it through animal charcoal, obtained by burning bones. The syrup was then placed in a "vacuum" pan and boiled at a low temperature, which gradually caused it to form into crystals. These were ladled into the mould, and a solution of pure white sugar allowed to trickle through, removing the last vestige of color. The liquid which ran out of the mould was *treacle*, or molasses. The loaf was permitted to dry gradually and, when quite solid, was removed from the mould. "The pointed end is turned on a lathe, and the outside of the loaf trimmed."

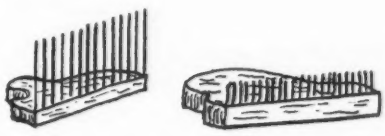
The Brush Maker

(Continued from page 65, column 2)

(A) and split very fine, was often used, either alone or mixed with bristles, as a cheaper but less durable substitute (B, C, E). The splitting was done "with a number of lances, fixed in a handle" (A).

The sorting of the bristles, according to color, was accomplished without the use of any kind of implement, so far as we can discover (A, C). To grade them into sizes was called *dressing* (A), or *dragging* (F). For this purpose "a number of combs, called *engines*, formed by thrusting the heads of needles, of various sizes, and at various distances apart, into blocks of wood (see the smaller illustration) are set up on a bench before the workman, six or eight of these combs being commonly used. He then takes a bundle of bristles, weighing from ¾ lb. to 4 lbs., and opening the bundle, strikes the bristles upon the first or widest comb, and draws them through. By repeating this operation several times, the largest and stoutest bristles are retained between the teeth of the first comb. He then passes on to the second comb, which, in like manner, retains those bristles which are a little smaller than the first; and in this way he proceeds until the whole bundle is separated into as many degrees of fineness as there are combs. The dressed hairs are, for the finest work, again picked, and all the different shades of color collected into separate heaps, care being taken in all these operations to keep the root ends together" (A). See also (C, F). "The workman, immediately after combing a handful assorts it into separate parcels of different lengths. This is very readily done, by pulling out the longest bristles from the top, until those which remain in the hand have been reduced to a certain length, which is determined by a gauge marked with numbers. At each pulling, the handful is reduced in height near half an inch" (D).

The *stock* or back of the brush, was formerly of oak or elm (B) and later of birch, beech or chestnut, or even satin-wood or rose-wood (A). The earlier brush makers shaped their own stocks in the manner shown in the illustration, entitled "Brush Maker" (B, E). The accompanying text states "The wood to be cut is held with the left hand, while the knife is worked with the right. * * * This wood, when cut into the proper sizes, is drilled with as many holes as is necessary, and into these the hair is put" (B). The artist, therefore, was obviously inaccurate in showing the workman shaping a stock, in which the bristles had already been set. In the latter 1830's, the brush makers began to procure the stocks from other artisans (D). Apparently they always had to depend on the turner for long handles (B, D). The crude brace and bit, shown in the illustration, and the absence of any machine, would seem to justify the inference that, in 1827, the holes in which the bristles were to be inserted, were bored by hand, but as early as 1837, this was done "with a bit of proper size, which is kept in motion with a lathe, while the wood is brought against it with both hands" (D). To insure uniform spacing of the holes, without sacrificing speed, a pattern-board, already drilled as desired, was clamped to the piece to be



"Engines" for Sorting Bristles
(from Tomlinson's *Encyclopedia*)

bored, and the bit run through the holes in the pattern (A, C, D). If a brush with *splay*, or outward flare of the bristles, was being made, a pattern, with holes running at the desired angles, was employed (C). Sometimes, however, the splay was produced by using a curved stock (A, C) and a lead pattern which could be bent to the desired shape (A).

The handles of brushes, of the type now used by house painters (formerly called *tools*), did not require any boring. One way of making them was to use a handle with one end having two projecting prongs between which full-length bristles were inserted and bound with twine, which was then coated with a mixture of glue and red lead. The other method was to bind the bristles to the smaller end of a round handle and secure them with a metallic cap (A, C).

The setting of the bristles in flat-backed brushes, of the hair brush type, was more complicated. The workman, after picking up a tuft, and tapping the ends on a smooth surface to make them even, dipped these ends into melted pitch, bound them with a *thrum* of string, and inserted them into one of the holes in the stock with "a twisting sort of motion." (A). If a very stiff brush was contemplated, it was desirable to double the bristles. For this purpose, the holes for the reception of the bristles were bored in the face of the stock only part way through, but afterwards much smaller holes, in continuation of these were bored all the way through. The workman, having clamped the stock to a bench or table, passed a flexible wire, first through the smaller hole and on through the larger, looped it around the middle of a tuft of hair, drew it up tight, and then proceeded to the same process with the next hole. This was called *drawing* (A, C, F) and an expert could fill five hundred holes in an hour, although one hundred was nearer the average (A, F). Brass, copper or iron wire was ordinarily used (B, C), but silver was preferred, especially if the brush, such as a tooth brush, were to be dipped in water (B, F). String was substituted for wire, if the brush was to be exposed to the action of acids or other corrosive liquids (A, F). The ends of the bristles were trimmed with "shears or a knife, according as they are required to be equal or unequal in length" (D).

Occasionally, the wires, with which the bristles were secured, were left exposed (B), but they were usually covered by applying to the back a thin slab of veneer, for the sake of appearance, to protect the wires from deterioration and damage (D, E) and to prevent them from scratching the hand (A, C). The entire brush was then finished off with spoke-shave, scraper, sand-paper and varnish (A, C, D).

According to one authority (F), in this trade "there is no division of labor, but the entire process is done by a single hand, except in the cases where * * * the brushes have to pass afterwards into the hands of the cabinet maker to be finished for market by having backs glued on them." This, however, was written after the time when it became the common practice to procure the stocks and handles elsewhere.

The best sort of bone or ivory brushes were made by *trepanning*. A number of holes were drilled through the sides of the stock either longitudinally or transversely, and the holes

for the bristles drilled in the face of the stock down to these "tunnels." The tufts were then drawn into place with strong thread or silk, and the openings of the tunnels closed with plugs of the same material as the stock (A, C, F).

In addition to brushes, this craftsman, at least in the early days, made "wooden coal-hods" and "measures for corn and coal." "The coal-hods are usually made of oak, with two wooden or iron handles on the sides; they are not as neat as copper ones, or as those made of iron and varnished: but they are much cheaper, and will last much longer than iron hods." (B).

In the larger illustration, the long-handled brush leaning against the back wall is a scrubbing-brush. "Brushes of this kind are sometimes used to dry-rub oaken floors; in that case, the backs are loaded with lead. In London, and its vicinity, where the high wages of female servants render them impertinent and slothful, it has become, by custom, a part of the man-servant's business to use them, but in the country, where wages are lower, the female servants consider this sort of work theirs beyond dispute, and would ridicule a man for 'doing women's work'" (B).

The manufacture of brushes and brooms from broom-corn was accomplished by the use of entirely different methods and appliances, and merits treatment in a separate article. All sorts of home-made makeshifts were employed, in the early days, for sweeping and brushing, from the turkey wing for the hearth (G) to the "pretty implement of house-wifery," made from the stalks of the great golden maiden-hair, or silkwood, for dusting (A). A very important and popular implement in this category was the splint broom or brush, apparently always made from a stick of birch. Starting at one end of the stick, the workman, having peeled off the bark, shaved the wood into fine slivers, leaving their ends attached to the stick, until there was nothing solid left but a small central core, which he cut out. Then, starting at an appropriate distance from the attached ends of the slivers, he shaved more slivers down toward them, until the stick at that point was the right size for a handle. These latter slivers were then bent over the others and tied, and the rest of the stick was brought down to the proper thickness. Mrs. Earle (G) describes this process in a most lucid and entertaining fashion. The North American Indians are usually given credit for the idea, but the English writers say "The making of birch brooms is a distinct and profitable trade" (B) and "Birch and heath-broom making is a distinct business, in which there are a great many persons engaged. Some of them have large establishments in which there are a great many persons engaged, and, trifling as the trade may appear, considerable capital is embarked on it" (E). It is possible, though, in the opinion of the writer, unlikely, that these English brooms were made in the Indian manner. It seems more probable that they were *besoms*, and that the twigs or splints were not a part of the staff, but tied to it.

AUTHORITIES

(A) *Cyclopedia of Useful Arts*, Charles Tomlinson, London, 1852, Vol. I, page 254. (B) *Book of English Trades*, C. & J. Rivington, London, 1827, page 54. (C) *American Mechanical Dictionary*, Edward H. Knight, New York, 1874, page 393. (D) *Panorama of Professions and Trades*, Edward Hazen, Philadelphia, 1837, page 82. (E) *The Complete Book of Trades*, N. Whittock et al., London, 1837, page 83. (F) *The Great Industries of the United States*, J. B. Burr & Hyde, Hartford, 1873, page 277. (G) *Home Life in Colonial Days*, Alice Morse Earle, New York, 1927, pages 301-4, 309.

American Porcelain Clay

By Lawrence B. Romaine

The following is quoted from *The Boston Mechanic* "edited by several practical men" (Boston, 1835): "We find, in an old work, (published in 1810) an account of the discovery of porcelain clay in this country, of which the following is the substance, embracing some curious items:

'About eighteen (now over forty) years ago, two men in the town of Monkton, in Vermont, were digging for iron ore, and about four feet from the surface of the ground, came to a white substance, which, from its resemblance to lead, they supposed would make putty. They accordingly made trial of it and found it to answer their best wishes. They afterwards penetrated the bed about twenty-five feet and observed the material to grow whiter and more pure, the farther they went down. Considerable quantities of putty have since been made and carried abroad for sale; and by those who have used it is preferred to any other. A house in Vergennes was painted with it, about sixteen years since, and still exhibits a hard coat impervious to the weather. Owing to the then narrow circumstances of the owners, and the doubts and scruples of people to let a certainty go for an uncertainty, as they called it, this material was talked of as valuable rather than put to the test of experiment, though it was still used by the towns in the vicinity of the bed; and it was not until a little more than a year ago that any adequate ideas were entertained as to the real properties and value of the "putty stuff", as it was called. This long-neglected material was afterwards ascertained to be porcelain clay, and a company was formed, with a view to manufacturing it into crockery and china ware. A very excellent kind of stone ware is already made by mixing it with a certain proportion of common blue clay. This clay is found on the eastern side of a hill arising in an angle of about forty degrees and is deposited in strata, having a variable number of degrees of northern depression, and the strata are intersected by veins of pure flint sand, valuable in the manufacture of flint glass. In an analysis of 100 grains, they yielded 56 pure silex; the remainder was pure clay, a little water and a very small portion of oxide of iron, though scarcely perceptible. When submitted to a strong heat, it forms into a solid porcelaineous mass, without fusing, and retains its whiteness. It has a great affinity for oil and it is found that mixed with equal parts, it even improved the whiteness of white lead. It must be a very useful article also for painting.'"

Hayward's *New England Gazetteer* (Boston, 1839) contains the following item:

"Monkton, Vt. — Iron ore is found in abundance and a bed of porcelain earth. By mixing this earth with common clay, various kinds of pottery are produced. This earth is very pure and it is said that it will make the very best of china ware. The bed is inexhaustible."

The druggist's sign was always a mortar and pestle. Local tradition, in some sections, was that the word *apothecary* was a contraction of "A pot he carries."—M. E. G.

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Communications should be addressed as follows: Pertaining to the *contents* of THE CHRONICLE, to W. B. Sprague. Applications for membership, to S. E. Gage. Suggestions of prospective members, to Miss Eleanor Hudson. Other matters to Burton A. Kollmer. Addresses as here given.

W. B. SPRAGUE, *Editor.*
43 Cedar St., New York, N. Y.

Our Purpose

The purpose of the association is to encourage the study and better understanding of early American industry, in the home, in the shop, on the farm, and on the sea, and especially to discover, identify, classify, preserve and exhibit obsolete tools, implements, utensils, instruments, vehicles, appliances and mechanical devices used by American craftsmen, farmers, housewives, mariners, professional men and other workers.

Dues

The annual dues are payable September 1st, and are as follows: Regular members $1.00; Contributing members, $2.00; Supporting members, $5.00; Sustaining members, $10.00, and up. There is no distinction between the classes, except the amount of the dues, but the publication of THE CHRONICLE cannot be financed unless a considerable number of the members pay more than $1.00. Each member is expected to voluntarily place himself in the class which represents the amount he is willing to contribute to the support of the Association for the current year. THE CHRONICLE is sent to all members without additional charge. Many of the back numbers may be secured from the Treasurer for 20c each, and a twelve-page index to the twenty-four numbers of Volume I, containing a useful bibliography, for $1.00 each. For further information, address any of the officers.

Editorial

When being shown a private collection, one is always reluctant, even though urged, to point out defects or incorrect classification, when it is quite sure to result in disappointment to the owner. Occasionally he has an article of unusual rarity or degree of interest, which he has failed to appreciate, and is only too happy to be told about it, but much more often he has been "stung," intentionally or otherwise, as was the case of the collector, now dead, who pointed with pride to two iron "candleholders," which he had procured from an old tavern at a fancy price. They were supposed to be the type which has a short spike to be thrust into the bottom of the candle. As a matter of fact, they were nothing but the usual iron spits for tin roasters, similar to the baker illustrated on our page 60, but he was not aware of this, as he had never paid any attention to cooking utensils. Nothing would have been gained by disillusioning him, as the purchase had been consummated too long before to attempt to rescind it.

The same principle should not apply, however, to inaccurate statements of fact or unsound expressions of opinion which may appear in our columns. It has been our general policy to publish everything which is offered to us, provided it relates to some subject which seems to be within the field which the Association attempts to cover, and provided it does not consist purely of statistics or lists of one kind or another. Naturally, if we detect some obvious mistake or fallacy, we delete or correct it, but not unless we are certain that we are justified in doing so, and not merely because we entertain some personal doubt in the matter. More and more THE CHRONICLE is becoming the recognized authority in its field, and we would again remind the members that it is each one's duty to question anything that we may print, if he has reasonable grounds for doing so. It is only by this kind of cooperation that each subject may ultimately be "thrashed out," and all inaccuracies eliminated.

Cast Steel

Cast steel was made by melting pieces of previously made steel in crucibles and then casting the liquid into ingots. When a tool bears the legend "Cast Steel," it does not mean that the tool itself was cast, but that it was *forged* from an ingot of that material. The process was invented in England in the third quarter of the 18th century. Dr. Henry C. Mercer, citing no authority except James M. Swank's *Introduction to a History of Iron Making, etc.* (1876) was always of the opinion that cast steel was not successfully manufactured in the United States until about 1850, and that any American tool so marked must be dated no earlier than that. We have, however, found references to it in much earlier American publications. "It has been but a few years since this manufacture (cast steel) was commenced in the United States" (1837). "Cast steel axes, ready ground for use, were first supplied by Collins & Co. of Hartford, Conn., in 1826." "The superiority of edge-tools, made of cast steel, is too well known to need any recommendation. The art of welding the best kind of cast steel to iron, without injuring its texture, is an American discovery" (1814). This last author goes on to say that, while the English also did this welding, the cast steel they used for the purpose was "little better, if any, than common steel."

The Newark Museum announces a special loan exhibit, open until September 10, of several interesting collections, including that of Dr. William Haley, which is described as follows: "Objects used in the household, on the farm and in the shop in the eighteenth and nineteenth centuries. Woodenware of fine finish and proportions, occasionally painted or carved, kitchen implements for fireplace cooking, sturdy crockery and wrought iron hardware; farming tools, many made of wood during a time when the farmer relied on his own skill and industry for his needs; some of the equipment of the blacksmith, butcher, miller, carpenter, dressmaker and general storekeeper." In the winter, the museum is open weekdays from 12 to 5:30; Sundays from 2 to 6; Thursday evenings from 7 to 9:30, and closed Mondays and holidays. In the summer, it is open 12 to 5, Tuesdays through Fridays, and closed Saturdays, Sundays, Mondays, evenings and holidays.

Connecticut Industries

(*Continued from last issue*)

"Although the great growth in manufacturing in Connecticut came after 1800—particularly after 1840—there had been some development in hand industries following the Revolution. Great Britain had encouraged the production of iron but prohibited the manufacture of iron goods—the metal was to be shipped to England for manufacture. Nevertheless, there were early forges in operation and hardware, nails and household utensils were made. Similarly, Irish immigrants, beginning at Berlin about 1740, had built up a very considerable hand industry in tinware by 1812 and, as in the case of many other 'Yankee notions', the Yankee peddler ranged far and wide seeking a market for these goods. In earlier days every large town had its hatter but by 1800 the hatter's trade had centered in Danbury, a century later the scene of the famous Hatter's Strike, which almost wrecked the business, although Danbury is still known as the 'Hat City' and advertises, 'Danbury Crowns Them All.' By 1816, Danbury hatters had two stores in Charleston, South Carolina, illustrating the wide distribution of Connecticut goods, and the introduction of the silk hat in 1835 added to the activities in this line.

In 1809, James Brewster began the manufacture of carriages at New Haven and, similarly, the south was his principal market. The American Clock Industry, born in or near Thomaston, began in 1807 when Terry made 200 clocks by hand to sell at $20.00 and took an 'impossible contract' to deliver 4,000 clocks in three years. These clocks were peddled by Yankee peddlers from Canada to Georgia, were later shipped all over the world, and Thomaston is still a great clock center. Jerome introduced the brass clock in 1838 and quantity production jumped up that year in Bristol alone to 10,000 wood and 10,000 brass and the price dropped to $5.00 or $10.00. By 1860 Jerome was making 200,000 brass clocks a year.

As time went on, this Yankee ingenuity became proverbial and Yankee 'notions' achieved notoriety. Factories in Sharon and Watertown turned out mouse-traps by the 100,000; Brooklyn produced 10,000 pairs of spectacles a year; Woodbridge made iron candlesticks by the 500 dozen; North Haven and Wallingford supplied razor strops by the 1,000 dozen; Chester, ink stands; Manchester, ink, shoe polish and shaving soap; Canton produced the famous Collins axe; Fluteville's name is suggestive; a few years ago I came across a small water power in the woods north of Milton and the remains of a scissors factory. In short, the Connecticut Yankee was keen to recognize a demand, and quick to attempt to meet it, in any line of goods which could be sold at a profit — even wooden nutmegs.

By 1845, in number of employed and in value of product, however, textile manufacture was the most important manufacturing industry in the state. This was not a native innovation. In this case Connecticut was an imitator and took her lesson from the cotton industry which, beginning at Pawtucket, Rhode Island, spread to Waltham and Lowell in Massachusetts. Next in importance was the boot and shoe business, carried on largely in the homes of the workers and which produced 400,000 pairs of boots and 1,200,000 pairs of shoes — 'brogans' at $1.00 per pair! This industry has since disappeared but another early and great industry still persists.

In 1790, Grilley, working at Waterbury, began the manufacture of pewter buttons. By 1802 Grilley and Porter were making brass buttons, using largely copper scrap collected by peddlers, and the Connecticut Brass Industry had been born. For about a century, American brass production centered in the Naugatuck Valley, and 80 to 90 per cent of our brass products came from this small area. The clock industry created a demand for sheet brass; Hayden developed the spinning process for kettles and such utensils; Howe introduced the manufacture of pins, expert workers from England were secured; the Scoville Manufacturing Company opened in 1827 and is still in business; the Chase Brass Company, the American Brass and other still active companies, were formed by consolidations. In 1922, Anaconda acquired the American Brass and in 1929 Kennecott Copper took over Chase; and even today, the Naugatuck Valley, far from the chief sources of raw material and from the center of gravity of the market, still produces half or more of the American output."

(*To be continued in next issue*)

1819 Bath Ticket

By Sigmund Epstein, M.D.

The history of bathing by the *genus homo* is an interesting and profitable study. Some of the almanacs of the fifteenth century show early woodcuts of the bath-house attendant, carrying a bunch of birch-twigs, like a broom, and, oddly enough, recommending that the month of May was a good month in which to take a bath.

The revival of the industry of bath-house keeping in the United States, in the cities, was profitable in seaports like New York. The season ticket, herewith illustrated, was probably good for one ablution in a downtown establishment, for the arrangement of which we have pictorial evidence from the Continental baths, and the famous Spas of Europe. The ticket reveals a sketch of a French bath-tub which was in vogue during the period of the Empire, along with the high-belted waist of the ladies and the tight-fitting trousers for the gentlemen.

The establishment probably consisted of a series of cubicles, and fitted with wooden tubs. An attendant filled them up with water at a suitable temperature, fetched in pails. The sketch indicates that they were emptied by a spigot, located in the front of the apparatus under a heavy metal handle. Casters made it transportable. There was no plumbing; labor was cheaper than any system of pipes, and easily procurable, as unskilled immigrants arrived here in numbers.

The industry of maintaining cleansing institutions was often in the hands of barbers, and it is easy to speculate on its remunerative nature when a ship arrived in the port, and docked near the southern tip of Manhattan Island.

What the eagle represented, it is hard to say; but let us hope that it registered the Federal approval of the balneotherapist and his workers in the early days of the Republic.

Early American Industries Association

Membership

Membership lists should be amended as follows: (N) indicates new member; (S) indicates non-member subscriber; (C) indicates change of address; (D) indicates decease; (R) indicates resignation; (Co) indicates correction.

CALIFORNIA

Beverly Hills: Richardson, Miss Frances C., Research Dept., 20th Century Fox Film Corp. (N)

CONNECTICUT

Georgetown: Philip, Grey, Peacable St. (N)

MASSACHUSETTS

Boston: Falvey, Miss Alice, 135 Bay State Rd. (N)

Salem: Lathrop, Miss Elizabeth R., 18 Chestnut St. (D)

Southbridge: Converse, Miss Alice G., 176 Main St. (N); Watkins, Malcolm, Wells Historical Museum (N)

Wellesley Hills: Jackson, Alton B., 187 Washington St. (N); Jackson, Mrs. Alton B., 187 Washington St. (N)

NEW JERSEY

Stanton: Hadlock, Frank D. (N)

NEW YORK

New York: Cummings, Lawrence B., 130 E. 75th St. (N)

Pittsford: Pierson, Mitchell (N)

PENNSYLVANIA

Solebury: Hawkins, Dr. John A. (N)

The Questionnaire

Questionnaires recently received have been tabulated as follows. For key to abbreviations, see page 7.

MASSACHUSETTS

Southbridge: Wells Historical Museum (Miss Alice G. Converse and Malcolm Watkins). Displays FI, FT, KH, HD, LD, SM, TC, VE, WM. Especially interested in early lighting. Wants LP. Write *.

NEW YORK

Rochester: Mitchell Pierson, 65 Broad St. (C). Collects HD, KH, LD. Wants LP. Write, only *.

Seaford: George Lewis Weeks, Jr. Collects (Long Island only) FI, FT, HD, HF, TC, WH. Wants LP, especially pictures of following whaling vessels: *Rainbow, Edgar, Sunbeam, Emily Morgan, Polar Star, Mary Gardiner, Emblem, Elizabeth*, also maps, also Yankee trade cards of Clark's O. N. T., J. & P. Coats, Brooks and Chadwicks. Write *.

Local Folk Museums

By H. K. LANDIS

The necessity of preserving, for the future student of folk life, typical examples of early craftsmanship and *kultur* is becoming daily more apparent. The usual causes of loss, such as fire, flood, rust, leaking roofs, rodents, mischievous children and careless housecleaning, are always with us, but to these must be added the sale of antiques as junk, stylish living resulting in the scrapping of older appliances, and, even more, the fad for antique furnishing of new "colonial" houses, whereby valuable or interesting antiques are adapted to other purposes than originally intended, which is often equivalent to their destruction. Antiques do not grow on trees; once destroyed they are lost beyond recovery. Thus the need for collection, preservation and study is becoming more and more important. Historical museums are therefore receiving more serious consideration.

Libraries also should be concerned with books and records of historical and technical interest, instead of fiction only, or such literature as appeals solely to the minds of morons, including modernistic propaganda effusions. They have yet a long way to go to attain real usefulness. A library should preserve, as a regular practice, works and source material of antiquarian interest, without regard to the number of calls for such data. The museum department of the library has nothing to do with popular demand. The trashy literature, so loudly acclaimed today, is ground up tomorrow to make wrapping paper, but the appreciation of material of antiquarian or historic interest increases with the passing of time. Yet among the sources of supply of dealers in old books are the local libraries, the management of which have fallen into the hands of juvenile-minded custodians, who reason that any book not called for once a year is of no value. Entertainment is the life and sustenance of the modern "jitterbug" and in too many cases does the tail wag the dog. Libraries should be encouraged to feature source material and works of antiquarian interest in the planning of their acquisitions.

Ordinarily one thinks of a museum as a pretentious building, erected as a civic ornament, in which is stored such material as may be donated, spasmodically accumulated or collected by financed expeditions. Little thought is given to specific studies that such material makes possible. Some few museums issue reports founded on their collections, such as the Field Museum of Chicago, the Natural History Museum of New York, the U. S. National Museum at Washington, and a few others. It cannot be said that each of these series of reports are confined to a single limited field, but there seems to be a tendency along that line, probably influenced by curators who specialize in one or more particular fields and who are prolific writers, and not often does an important museum truly represent the section of the country in which it is located or the culture of local peoples.

The desirability of preserving relics depicting the growth and nature of the culture of a distinctive section is self evident. To some extent this is the function of local historical societies, but seldom does one find there any considerable interest in such collections and studies. On the contrary, the responsibility is generally left to some local collector who, at his own expense, accumulates such material as he can find and acquire. Finally this material is again scattered from the auction block and what might have been of great value to future students is lost through indifference. There are a few of these private museums in existence, but their continuance is still problematical. One would think that, while such immense amounts of money are yearly spent upon the public good, there would be some surplus to insure the maintenance and preservation of this private museum material.

Since a great advantage lies in locating the museum in the section it represents, so that those who study the craftsmanship and culture will find what they seek close by, it is evident that we require more sectional museums. Another desideratum is the supervision of intelligent curators, who will study the collections and put their findings into print. Such publications can be financed by a separate publication fund or from the museum treasury itself. But, since the public is benefited, there should be more support from public funds, especially for those sectional museums which have no independent source of income.

What should be, is worth striving for. We need places where individual collections of valuable and instructive antiquities can be permanently lodged, instead of being distributed, at an estate sale, for the benefit of gasoline consumers and high life aspirants; a center for the collection of source material of a district, the history of which has a definite bearing upon its subsequent fame and prosperity.

COMMUNICATIONS

From MR. L. L. THWING:

"We will never know exactly how the 18th-century artisan did his work, nor what the tricks of his trade were. Secrecy was one of his assets, and tricks of the trade were called mysteries in the apprenticeship papers of Provincial Massachusetts. If the craftsman would demonstrate his art before our very eyes, words would be inadequate. A moving picture of the slow-motion type would be very informative, but actually we have to depend on the writings of men who had but slight knowledge of the trades they attempted to describe. These are probably relatively as complete and detailed as some of the "how-to-make" articles in current magazines. The "what-is-to-be-done" is clear enough, but the "how-to-do-it" is weak. It is said that Diderot visited the shops of all the craftsmen whose operations are illustrated in the great French Encyclopedia, but other authors have had neither the time, opportunity, or disposition to follow his example. Knight's *American Mechanical Dictionary* is the best thing of its kind in the English language, and we should be glad he wrote it, but he was a U. S. Patent Office employe, and there is a sort of patent office pedantry about his work. It has little flavor or terminology of the workman and his shop. Workmen had—and still have—names for their tools and their operations, that never get into print. Books such as Rivington, Hazen, Whittock and others, were written to be interesting, rather than instructive." [Nevertheless, they sometimes furnish the best information that can be found. Our experience is that their fault lies in lack of completeness rather than in misstatements. Sometimes a great deal can be done by piecing together "fragments," procured from several different sources of this kind. — ED.]

From MR. NEWTON C. BRAINARD:

"The February 22 issue of the *American Machinist* contains an article explaining the methods used to cut large wooden screws, up to twelve inches in diameter and eight or ten feet long, such as were used on old cider presses. In the opinion of this writer, the method suggested does not give a satisfactory explanation, since it assumes a pattern screw available as a guide for cutting, without explaining how this pattern was cut or how it was driven in order to guide the cutting tool. In this explanation, the cutting tool has a handle, perhaps four feet long, and rides on a tool rest the full length of the lathe. It is guided and traversed by a large screw, a duplicate of the one to be cut, set outside the tool rest.

One can imagine the difficulties of a wood turner attempting to handle this huge tool while starting the cutting, then racing with it as it made its rapid way to the other end of the lathe, and repeating until the screw is finished. All this time he must be busy maintaining an even depth of cut, and holding the tool at the correct angle to the work.

The same article says that the tapping of the nut was doubtless done by a single-point tool, fed through the nut by hand at the proper lead. We hardly feel that it is necessary to argue on the impossibility of this.

In considering the comment on threading the nut, we must remember that this nut was a rectangular block, six or eight inches thick, and several feet long, possibly weighing one or two hundred pounds. Such a block could not have been fastened on to any lathe of the period and must have been tapped in a fixed position. How was it bored before the tapping commenced?

This article brought to mind a book on English woodwork by the eminent authority, Herbert Cezinski, which was published a few years ago. In discussing early chairs and banisters with twisted spiral posts, he passes over any question as to how they were produced by saying that they were turned on a lathe. We believe that most of the examples he shows were produced generations or centuries before the first screw-cutting lathe was built.

In the *Connecticut Courant*, about 1800, appear advertisements of a maker of screws for cider presses who speaks of the advantages of machine-made screws over hand-made. In his advertisements he also recommends a complete new set of screws each year since the old ones will, undoubtedly, be so warped that they will make trouble. From this we would assume that he was referring to small presses with a screw perhaps a couple of inches in diameter, rather than the big screws referred to in the *American Machinist*."

(We directed Mr. Brainard's attention to the discussion of this subject contained in *Ancient Carpenters' Tools*, whereupon he sent us the following rejoinder—Ed.)

"I have read the remarks on screw cutting in Mercer's book. His references seem conclusive and yet I am skeptic enough to doubt if it ever was done as he states. To cut a thread with a single tool involves mechanical difficulties which cannot be waved aside. For instance,—the tools he mentions would require several cuts before leaving a finished thread in wood. To make this, the work would have to start from a standstill at a fixed point. The tool would have to move at a carefully-set speed. When he speaks of a thread being cut in "flying," I have even greater doubts. At any of the speeds at which a wood lathe cuts in a satisfactory manner, the travel of the tool across the work sideways would be so rapid that it would be impossible for a human hand to move it with any accuracy. I wonder if all of these were not done by some sort of a scraping process with the lathe turned slowly by hand rather than in the customary manner. This question opens up an interesting field of discussion and I notice that even the old authors state that they have never seen the mechanism necessary to do this work."

From DR. BURTON N. GATES:

"Your readers may be interested in this lighting-device note which I found today:

'UFFORD'S smoke consuming, *Patent Portable Lamp;* the cheapest and best light yet produced,' 1856, sold for 83c, $1.00, $1.25 and $1.50. It is described as a grease lamp for burning the "poorest quality of oil" with perfect combustion. Two-fifths of a pint of oil burned for twelve hours or more, giving as much light as 'a medium Solar, at one-fourth the expense.' Various testimonials are given by important newspapers; the *Puritan Recorder* used the lamp and, 'found it answering well to what is claimed for it.' The *Boston Bee* found it 'free from any smoke or disagreeable smell and the most economical contrivance now in use.' The lamp pictured, (page 69), in the advertisement which we have quoted from *The History of Boston, from* 1630 *to* 1856. *Boston.* 1856, shows a shade, but examples of the lamp which we have seen, have been without the shade. The lamp which was 'sold wholesale and retail by S. N. & H. G. Ufford, 117 Court Street, Head of Sudbury, Boston' was supposedly manufactured by them."

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